

CLAIM AMENDMENTS

February 11, 2005

Claims

What is claimed is:

1. (currently amended) A fluid-operable rotary drive clutch (1), ~~of whose~~ comprising drive plates (2), at least one of which is connected rotationally fixedly to an input assembly (3) and at least one other is connected rotationally fixedly to an output assembly (4), the operating fluid (11) being conveyed from ~~the~~ a pressure chamber of a piston/cylinder unit (7) through a connecting line (8) to an additional pressure chamber (6), which is sealed by ~~the~~ an annular piston (5) of a clutch actuating ring (9) that is axially translatable when pressure is applied to it, ~~the~~ a front face of the piston, facing toward ~~said the~~ said the additional pressure chamber (6), being acted on by the pressure of ~~said the~~ said the operating fluid (11) to engage or disengage said rotary drive clutch (1), depending on the function of said rotary drive clutch (1), and ~~said the~~ said the piston/cylinder unit (7) being connected to ~~said the~~ said the connecting line (8) rotationally fixedly, pressure-tightly, and co-rotatably with ~~the~~ a clutch component from which ~~said the~~ said the connecting line (8) opens into ~~said the~~ said the additional pressure chamber (6), ~~characterized in that said wherein the~~ piston/cylinder unit (7) is acted on by an external force generator (13) comprising a rotor (14) and a stator (15), said rotor (14) being traversable in ~~the~~ an axial direction of ~~said the~~ said the piston/cylinder unit (7) and being ~~either one~~ of - journaled so that it is able to move rotationally with respect to said stator (15), ~~or~~ and - coupled to ~~said the~~ said the rotatable piston/cylinder unit (7) via an axial-force rotating bearing (16).

2. (currently amended) The rotary drive clutch ~~as recited in claim 1,~~
~~characterized in that~~ said in accordance with claim 1, wherein the axial-force
rotating bearing (16) ~~is implemented as~~ comprises a sliding bearing.
3. (currently amended) The rotary drive clutch ~~as recited in claim 1,~~
~~characterized in that~~ said in accordance with claim 1, wherein the axial-force
rotating bearing (16) ~~is implemented as~~ comprises a roller bearing.
4. (currently amended) The rotary drive clutch ~~as recited in one of claims 1~~
~~to 3, characterized in that~~ in accordance with claim 1, wherein said external
force generator (13) is a linear motor (17).
5. (currently amended) The rotary drive clutch ~~as recited in~~ accordance
with claim 4, ~~characterized in that~~ wherein said rotor (14) of said linear motor
(17) is electrically or magnetoelectrically driven.
6. (currently amended) The rotary drive clutch ~~as recited in claim 4 or 5,~~
~~characterized in that~~ in accordance with claim 4, wherein said linear motor
(17) is drivable via a servo controller (27).
7. (currently amended) The rotary drive clutch ~~as recited in one of claims 4~~
~~to 6, characterized in that~~ in accordance with claim 4, wherein said linear
motor (17) is operated in ~~the~~ a closed control circuit with preset operating
parameters.
8. (currently amended) The rotary drive clutch ~~as recited in one of claims 1~~
~~to 7, characterized in that~~ in accordance with claim 1, wherein said
piston/cylinder unit (7) is supported axially immovably by a pair of oppositely
disposed angular ball bearings (18).

9. (currently amended) The rotary drive clutch ~~as recited in one of claims 1 to 8, characterized in that~~ in accordance with claim 1, wherein said clutch actuating ring (9) is ~~also~~ translatable, in its axial direction of movement, opposite the direction of application of pressure, by a counteracting-force generator (20), and serves as a displacing element of a brake (19).

10. (currently amended) The rotary drive clutch ~~as recited in claim 9, characterized in that~~ in accordance with claim 9, wherein said counteracting-force generator (20) is elastically biased and comprises springs arranged such that they are tensioned against increasing resilient force as the pressure applied by ~~said the~~ annular piston (5) to actuate the clutch increases.

11. (currently amended) The rotary drive clutch ~~as recited in one of claims 1 to 10, characterized in that said~~ in accordance with claim 1, wherein the piston/cylinder unit (7) is mounted rotatably in a stationary and self-contained housing (21) and is connected communicatingly, via a co-rotating conduit system (22), to ~~the~~ a selected one of a clutch chamber and/or ~~to the~~ a brake chamber (24), if present.

12. (currently amended) The rotary drive clutch ~~as recited in claim 11, characterized in that said~~ in accordance with claim 11, wherein the co-rotating conduit system (22) is connected via an annular feed line (25) to a non-co-rotating cooling oil tank (26).